

CLAIMS

What is claimed is:

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1. A method for checking the level of manageability support of a network device,  
the method comprising:  
identifying a variable to be checked;  
reading a value for the variable from the network device;  
determining whether there is a VALID values list for the variable, when there is a  
VALID values list, comparing the returned value from the network device with the listed value  
for a match and when the values do not match, outputting an error message for the variable; and  
determining whether there is a INVALID values list for the variable, when there is an  
INVALID values list, comparing the returned value from the network device with the listed  
value for a match and when the values match, outputting an error message for the variable.

2. The method as defined in claim 1, further comprising:  
determining that the variable has a dependent variable;  
identifying the dependent variable to be checked;  
reading a value for both the variable and the dependent variable from the network device;  
determining whether there is a VALID values list for the variables, when there is a  
VALID values list, comparing the returned values from the network device with the listed values  
for a match and when the values do not match, outputting an error message for the variables; and  
determining whether there is an INVALID values list for the variables, when there is an  
INVALID values list, comparing the returned values from the network device with the listed  
values for a match and when the values match, outputting an error message for the variables.

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13. The method as defined in claim 2, further comprising:

determining that there is a configure request for the variable;

reading a new value for the variable;

5 configuring the variable with the new value in the device being checked;

determining whether the configure request was successful;

when the configure request is not successful, outputting an error message and ending the

check for the variable; and

when the configure request is successful, determining whether there is at least one

associated variable;

when there is not at least one associated variable, ending the check for the

variable; and

when there is at least one associated variable, identifying the at least one

associated variable;

reading the value of the at least one associated variable from the network device

after sleeping for a predetermined period of time;

determining whether there is a VALID values list for the at least one associated

variable, when there is a VALID values list, comparing the returned value from the

network device with the listed value for a match and when the values do not match,

20 outputting an error message for the at least one associated variable; and

determining whether there is a INVALID values list for the at least one associated

variable, when there is an INVALID values list, comparing the returned value from the

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network device with the listed value for a match and when the values match, outputting an error message for the at least one associated variable.

4. The method as defined in claim 1, further comprising:

5 determining that there is a configure request for the variable;

reading a new value for the variable;

configuring the variable with the new value in the device being checked;

determining whether the configure request was successful;

when the configure request is not successful, outputting an error message and ending the check for the variable; and

when the configure request is successful, determining whether there is at least one associated variable;

when there is not at least one associated variable, ending the check for the variable; and

when there is at least one associated variable, identifying the at least one associated variable;

reading the value of the at least one associated variable from the network device after sleeping for a predetermined period of time;

determining whether there is a VALID values list for the at least one associated variable, when there is a VALID values list, comparing the returned value from the network device with the listed value for a match and when the values do not match, outputting an error message for the at least one associated variable; and

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determining whether there is a INVALID values list for the at least one associated variable, when there is an INVALID values list, comparing the returned value from the network device with the listed value for a match and when the values match, outputting an error message for the at least one associated variable.

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5. A method for checking the level of manageability support of a network device, the method comprising:

determining that the variable has a dependent variable;  
identifying the dependent variable to be checked;  
reading a value for both the variable and the dependent variable from the network device;  
determining whether there is a VALID values list for the variables, when there is a VALID values list, comparing the returned values from the network device with the listed values for a match and when the values do not match, outputting an error message for the variables; and  
determining whether there is an INVALID values list for the variables, when there is an INVALID values list, comparing the returned values from the network device with the listed values for a match and when the values match, outputting an error message for the variables.

6. The method as defined in claim 5, further comprising:

determining that there is a configure request for the variable;  
reading a new value for the variable;  
configuring the variable with the new value in the device being checked;  
determining whether the configure request was successful;

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*Sub A1* when the configure request is not successful, outputting an error message and ending the check for the variable; and

when the configure request is successful, determining whether there is at least one associated variable;

5 when there is not at least one associated variable, ending the check for the variable; and

when there is at least one associated variable, identifying the at least one associated variable;

reading the value of the at least one associated variable from the network device after sleeping for a predetermined period of time;

determining whether there is a VALID values list for the at least one associated variable, when there is a VALID values list, comparing the returned value from the network device with the listed value for a match and when the values do not match, outputting an error message for the at least one associated variable; and

determining whether there is a INVALID values list for the at least one associated variable, when there is an INVALID values list, comparing the returned value from the network device with the listed value for a match and when the values match, outputting an error message for the at least one associated variable.

20 7. A method for checking the level of manageability support of a network device, the method comprising:

determining that there is a configure request for the variable;

reading a new value for the variable;

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determining whether there is a INVALID values list for the at least one associated variable, when there is an INVALID values list, comparing the returned value from the network device with the listed value for a match and when the values match, outputting an error message for the at least one associated variable.

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8. A computer-readable medium having stored thereon computer-executable instructions for performing a method for checking the level of manageability support of a network device, the method comprising:

identifying a variable to be checked;

5 reading a value for the variable from the network device;

determining whether there is a VALID values list for the variable, when there is a VALID values list, comparing the returned value from the network device with the listed value for a match and when the values do not match, outputting an error message for the variable; and

determining whether there is an INVALID values list for the variables, when there is an INVALID values list, comparing the returned values from the network device with the listed values for a match and when the values match, outputting an error message for the variables.

9. The computer-readable medium as defined in claim 8, wherein the method further comprises:

determining that the variable has a dependent variable;

identifying the dependent variable to be checked;

reading a value for both the variable and the dependent variable from the network device;

determining whether there is a VALID values list for the variables, when there is a VALID values list, comparing the returned values from the network device with the listed values for a match and when the values do not match, outputting an error message for the variables; and

determining whether there is an INVALID values list for the variables, when there is an INVALID values list, comparing the returned values from the network device with the listed values for a match and when the values match, outputting an error message for the variables.

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reading a new value for the variable;

determining whether the configure request was successful;

when the configure request is successful, determining whether there is at least one associated variable;

when there is not at least one associated variable, ending the check for the variable; and

when there is at least one associated variable, identifying the at least one associated variable;

reading the value of the at least one associated variable from the network device  
after sleeping for a predetermined period of time;

determining whether there is a VALID values list for the at least one associated variable, when there is a VALID values list, comparing the returned value from the

network device with the listed value for a match and when the values do not match, outputting an error message for the at least one associated variable; and

determining whether there is a `INVALID` values list for the at least one associated variable, when there is an `INVALID` values list, comparing the returned value from the



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network device with the listed value for a match and when the values match, outputting an error message for the at least one associated variable.

11. The computer-readable medium as defined in claim 8, wherein the method further  
5 comprises:

determining that there is a configure request for the variable;

reading a new value for the variable;

configuring the variable with the new value in the device being checked;

determining whether the configure request was successful;

when the configure request is not successful, outputting an error message and ending the  
check for the variable; and

when the configure request is successful, determining whether there is at least one  
associated variable;

when there is not at least one associated variable, ending the check for the  
variable; and

when there is at least one associated variable, identifying the at least one  
associated variable;

reading the value of the at least one associated variable from the network device  
after sleeping for a predetermined period of time;

20 determining whether there is a VALID values list for the at least one associated  
variable, when there is a VALID values list, comparing the returned value from the  
network device with the listed value for a match and when the values do not match,  
outputting an error message for the at least one associated variable; and

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determining whether there is a INVALID values list for the at least one associated variable; when there is an INVALID values list, comparing the returned value from the network device with the listed value for a match and when the values match, outputting an error message for the at least one associated variable.


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12. A computer-readable medium having stored thereon computer-executable instructions for performing a method for checking the level of manageability support of a network device, the method comprising:

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determining that the variable has a dependent variable;  
identifying the dependent variable to be checked;  
reading a value for both the variable and the dependent variable from the network device;  
determining whether there is a VALID values list for the variables, when there is a VALID values list, comparing the returned values from the network device with the listed values for a match and when the values do not match, outputting an error message for the variables; and  
determining whether there is an INVALID values list for the variables, when there is an INVALID values list, comparing the returned values from the network device with the listed values for a match and when the values match, outputting an error message for the variables.

20 13. The computer-readable medium as defined in claim 12, wherein the method further comprises:

determining that there is a configure request for the variable;  
reading a new value for the variable;  
configuring the variable with the new value in the device being checked;

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determining whether the configure request was successful;  
 when the configure request is not successful, outputting an error message and ending the  
 check for the variable; and

when the configure request is successful, determining whether there is at least one  
 5 associated variable;

when there is not at least one associated variable, ending the check for the  
 variable; and

when there is at least one associated variable, identifying the at least one  
 associated variable;

reading the value of the at least one associated variable from the network device  
 after sleeping for a predetermined period of time;

determining whether there is a VALID values list for the at least one associated  
 variable, when there is a VALID values list, comparing the returned value from the  
 network device with the listed value for a match and when the values do not match,  
 outputting an error message for the at least one associated variable; and

determining whether there is a INVALID values list for the at least one associated  
 variable, when there is an INVALID values list, comparing the returned value from the  
 network device with the listed value for a match and when the values match, outputting  
 an error message for the at least one associated variable.

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14. A computer-readable medium having stored thereon computer-executable  
 instructions for performing a method for checking the level of manageability support of a  
 network device, the method comprising:

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determining that there is a configure request for the variable;

reading a new value for the variable;

configuring the variable with the new value in the device being checked;

determining whether the configure request was successful;

5       when the configure request is not successful, outputting an error message and ending the  
check for the variable; and

when the configure request is successful, determining whether there is at least one associated variable;

when there is not at least one associated variable, ending the check for the variable; and

when there is at least one associated variable, identifying the at least one associated variable

reading the value of the at least one associated variable from the network device  
after sleeping for a predetermined period of time;

determining whether there is a VALID values list for the at least one associated variable, when there is a VALID values list, comparing the returned value from the network device with the listed value for a match and when the values do not match, outputting an error message for the at least one associated variable; and

20 determining whether there is a INVALID values list for the at least one associated variable, when there is an INVALID values list, comparing the returned value from the network device with the listed value for a match and when the values match, outputting an error message for the at least one associated variable.

means for determining whether there is a **VALID** values list for the variables, when there is a **VALID** values list, the returned values from the network device are compared with the listed values for a match and when the values do not match, an error message for the variables is outputted; and

means for determining whether there is an INVALID values list for the variables, when there is an INVALID values list, the returned values from the network device are compared with the listed values for a match and when the values match, an error message for the variables is outputted.

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17. The apparatus as defined in claim 16, further comprising:

means for determining that there is a configure request for the variable;

means for reading a new value for the variable;

means for configuring the variable with the new value in the device being checked;

means for determining whether the configure request was successful;

means for, when the configure request is not successful, outputting an error message and ending the check for the variable; and

means for, when the configure request is successful, determining whether there is at least one associated variable;

means for, when there is not at least one associated variable, ending the check for the variable; and

means for, when there is at least one associated variable, identifying the at least one associated variable;

means for reading the value of the at least one associated variable from the network device after sleeping for a predetermined period of time;

means for determining whether there is a VALID values list for the at least one associated variable, when there is a VALID values list, the returned value from the

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network device is compared with the listed value for a match and when the values do not match, an error message for the at least one associated variable is outputted; and

means for determining whether there is a INVALID values list for the at least one associated variable, when there is an INVALID values list, the returned value from the network device is compared with the listed value for a match and when the values match, an error message for the at least one associated variable is outputted.

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18. The apparatus as defined in claim 15, further comprising:  
means for determining that there is a configure request for the variable;  
means for reading a new value for the variable;  
means for configuring the variable with the new value in the device being checked;  
means for determining whether the configure request was successful;  
means for, when the configure request is not successful, outputting an error message and ending the check for the variable; and  
means for, when the configure request is successful, determining whether there is at least one associated variable;

means for, when there is not at least one associated variable, ending the check for the variable; and

means for, when there is at least one associated variable, identifying the at least one associated variable;

20 means for reading the value of the at least one associated variable from the network device after sleeping for a predetermined period of time;

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means for identifying the dependent variable to be checked;

means for reading a value for both the variable and the dependent variable from the

means for determining whether there is a VALID values list for the variables, when there

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20. The apparatus as defined in claim 19, further comprising:

means for determining that there is a configure request for the variable;

means for reading a new value for the variable;

5 means for configuring the variable with the new value in the device being checked;

means for determining whether the configure request was successful;

means for, when the configure request is not successful, outputting an error message and

ending the check for the variable; and

means for, when the configure request is successful, determining whether there is at least

one associated variable;

means for, when there is not at least one associated variable, ending the check for

the variable; and

means for, when there is at least one associated variable, identifying the at least

one associated variable;

means for reading the value of the at least one associated variable from the

network device after sleeping for a predetermined period of time;

means for determining whether there is a VALID values list for the at least one

associated variable, when there is a VALID values list, the returned value from the

network device is compared with the listed value for a match and when the values do not

20 match, an error message for the at least one associated variable is outputted; and

means for determining whether there is a INVALID values list for the at least one

associated variable, when there is an INVALID values list, the returned value from the

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5 the apparatus comprising:

means for determining whether there is a VALID values list for the at least one associated variable, when there is a VALID values list, the returned value from the network device is compared with the listed value for a match and when the values do not match, an error message for the at least one associated variable is outputted; and

*Sub A1* means for determining whether there is a INVALID values list for the at least one associated variable, when there is an INVALID values list, the returned value from the network device is compared with the listed value for a match and when the values match, an error message for the at least one associated variable is outputted.

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22. An apparatus for checking the level of manageability support of a network device, the apparatus comprising:

a fundamental variable checker for identifying the variable, obtaining a value for the variable, checking the value against any and all VALID/INVALID values, and generating an error message if the value of the variable is found to not be valid or to be invalid.

23. The apparatus as defined in claim 22, further comprising:

a dependent variable checker for identifying the variable and finding the variable to have a dependent variable, wherein the values for both the variables are obtained, their values are checked against any and all VALID/INVALID values, and if the values of the variables are found to not be valid or to be invalid, then an error message is generated.

24. The apparatus as defined in claim 23, further comprising:

a configure request variable checker for identifying the variable, observing that there is a configure request for the variable, configuring the variable with a new value, and verifying that the configure request was successful, wherein a determination is made that at least one associated variable exists, a predetermined period of time is allowed to elapse before the value of the at least one associated variable is obtained, the value is checked against any and all

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25. The apparatus as defined in claim 22, further comprising:

5 a configure request variable checker for identifying the variable, observing that there is a configure request for the variable, configuring the variable with a new value, and verifying that the configure request was successful, wherein a determination is made that at least one associated variable exists, a predetermined period of time is allowed to elapse before the value of the at least one associated variable is obtained, the value is checked against any and all VALID/INVALID values, and if the value of the at least one associated variable is found to not be valid or to be invalid, then an error message is generated.


26. An apparatus for checking the level of manageability support of a network device, the apparatus comprising:

a dependent variable checker for identifying the variable and finding the variable to have a dependent variable, wherein the values for both the variables are obtained, their values are checked against any and all VALID/INVALID values, and if the values of the variables are found to not be valid or to be invalid, then an error message is generated.

20 27. The apparatus as defined in claim 26, further comprising:

a configure request variable checker for identifying the variable, observing that there is a configure request for the variable, configuring the variable with a new value, and verifying that the configure request was successful, wherein a determination is made that at least one

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associated variable exists, a predetermined period of time is allowed to elapse before the value of the at least one associated variable is obtained, the value is checked against any and all VALID/INVALID values, and if the value of the at least one associated variable is found to not be valid or to be invalid, then an error message is generated.

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28. An apparatus for checking the level of manageability support of a network device, the apparatus comprising:

a configure request variable checker for identifying the variable, observing that there is a configure request for the variable, configuring the variable with a new value, and verifying that the configure request was successful, wherein a determination is made that at least one associated variable exists, a predetermined period of time is allowed to elapse before the value of the at least one associated variable is obtained, the value is checked against any and all VALID/INVALID values, and if the value of the at least one associated variable is found to not be valid or to be invalid, then an error message is generated.

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